

# CITY OF MANCHESTER, NEW HAMPSHIRE



## FINAL REPORT

## STORMWATER FEASIBILITY STUDY

JUNE 2008

**Hoyle, Tanner**  
& Associates, Inc.

**amec**

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the City of Manchester

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## Executive Summary

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The City of Manchester's 2007 estimated stormwater budget was approximately \$765,000. This expenditure, when compared to other communities around the United States, indicates an incidental level of stormwater program investment. Many of the program elements considered basic to stormwater management are being performed but at a relatively low level of service. The annual cost to bring the stormwater program to a moderate level is estimated at approximately \$2.6 million.

There are over 400 user fee based stormwater utilities in the United States with dozens more in various stages of implementation. On October 30<sup>th</sup>, 2007, Hoyle, Tanner and AMEC staff conducted a stormwater workshop with the City of Manchester to explore what enhancements to the existing stormwater program are necessary to meet local needs and the feasibility of utilizing a user fee structure to support such a program. The following topics were reviewed during the stormwater workshop:

1. Background information
2. Compelling case
3. Program priorities
4. Cost vs. revenue
5. Implementation needs
6. Next steps

The following issues were identified as the most compelling reasons to enhance the City's stormwater management program by workshop attendees (listed in order of importance):

1. Flooding
2. Water quality
3. Capital improvements
4. Regulatory mandates

Workshop attendees agreed that this initiative should proceed in the following manner:

1. Completion of preliminary Stormwater Feasibility Study Report – Spring 2008
2. Presentation to the City Board of Mayor and Aldermen – Spring 2008
3. Based on the approval of the Board of Mayor and Alderman, proceed with stormwater program implementation phase tasks – Summer 2008 to Spring 2009
4. Final presentation to the City Board of Mayor and Alderman – Spring 2009
5. Implementation of stormwater section – July 2009

Appendix A contains a copy of New Hampshire House Bill 664-FN which was passed in 2007 and enabled the City of Manchester to establish a stormwater utility. Appendix B includes a copy of the pending New Hampshire House Bill 1581-FN which permits the governing body of municipalities throughout the state to construct and maintain stormwater systems, including the formation of stormwater utilities. This bill has passed the House and Senate and is awaiting the Governor's approval.

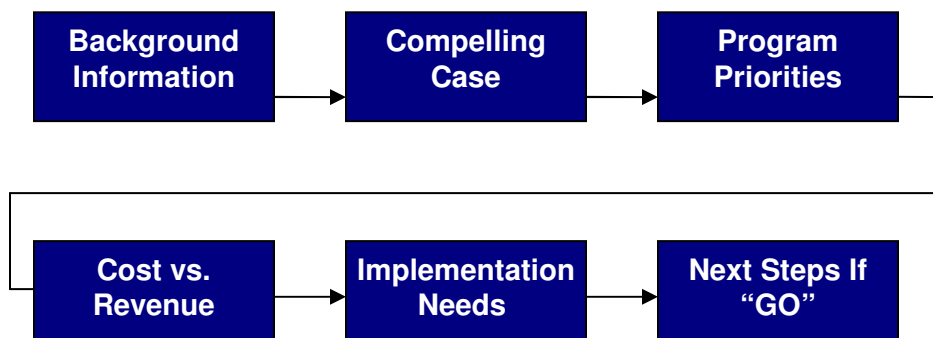
# Introduction

Hoyle, Tanner & Associates, Inc. (Hoyle, Tanner), and AMEC Earth & Environmental, Inc. (AMEC) are pleased to submit this Stormwater Feasibility Study report to the City of Manchester, NH. This report discusses the findings and recommendations of our investigation into the potential feasibility of using a stormwater user fee mechanism to fund an enhanced stormwater program. As part of this study, Hoyle, Tanner and AMEC staff conducted a stormwater workshop with the City of Manchester to explore what enhancements to the existing stormwater program are necessary to meet local needs and the feasibility of utilizing a user fee structure to support such a program. The workshop took place on October 30<sup>th</sup>, 2007 at the Hoyle, Tanner offices in Manchester, NH. Attendees included the following:

Frank Thomas, Director of Public Works  
Kevin Sheppard, Deputy Director DPW  
William Saunders, Finance Director  
Sean Thomas, Sr. Policy Advisor to Mayor  
Dan O'Neil, Alderman At-Large  
John Munn, SNH Regional Planning  
Mike Schramm, Hoyle, Tanner  
Frank Wells, Hoyle, Tanner  
Charlene Johnston, AMEC

Fred McNeill, Chief Sanitary Engineer  
Rob Robinson, Env. Permits Coordinator  
Rick Cantu, WWTP Superintendent  
Mike Lopez, Alderman At-Large  
Eric Williams, NH-DES  
Gene Forbes, Hoyle, Tanner  
Paul Clinghan, Hoyle, Tanner  
Andy Reese, AMEC

The structure of the stormwater workshop followed the roadmap depicted below. The remainder of the report also follows this roadmap.



## Background Information

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Municipalities and their subsidiary organizations employ a variety of “funding” methods including service charges, several types of taxes, franchises and other fees, fines, and penalties. There are three main ways of providing support to stormwater programs including resources, money, and revenue.

1. Resources include all the non-cash ways that a local stormwater program can be supported. This includes free resources available from the internet, shared costs with neighbors, transformation of current programs to better support stormwater needs, volunteer programs, etc. Resources are not necessarily free, because they often require significant staff time to find, coordinate, and manage.
2. Money includes all one-time infusions of funds. This includes Federal and State grants, loans, penalties, bonds, special sales taxes, one-time development-related fees and payments, penalties, etc. Money is often targeted to a specific need or program activity. Money may or may not be sufficient to cover specific program activities, but the key characteristic is that it is a one-time infusion.
3. Revenue includes all on-going flow of funds. For local governments this includes property and other ad valorem taxes, sales or gasoline taxes, franchise fees, user fees, etc. The key characteristic of this type of support is that it is ongoing.

Each of these basic types of support has advantages and disadvantages that can be targeted toward different aspects of the stormwater program. Table 1 depicts the key elements of a typical stormwater program. As these elements are considered, it is clear that the bulk of the cost of stormwater programs must be borne by revenue-producing support sources and not by resources or money. Since stormwater cannot compete

effectively for general fund tax dollars, most local governments have found that only legally dedicated revenue will last the test of time and competing priorities.

**Table 1. Stormwater Functional Areas**

**1. Administration & Finance**

General Administration  
General Program Planning & Development  
Billing Operations  
Customer Service  
Financial Management  
Capital Outlay  
Overhead Costs  
Cost Control  
Support Services

**2. Special Programs**

Public Awareness and Involvement  
GIS and Database Management  
Special Program Planning & Development

**3. Stormwater Quality Management**

Quality Master Planning  
Retrofitting Program  
Comprehensive Monitoring Program  
Best Management Practice (BMP) Program  
Pesticide, Herbicide and Fertilizer  
Used Oil & Toxic Materials  
Street Maintenance Program  
Spill Response and Clean Up  
Program for Public Education and Reporting  
Leakage and Cross Connections  
Industrial Program  
General Commercial & Residential Program  
Illicit Connection and Illegal Dumping  
Landfills and Other Waste Facilities

**4. Engineering and Planning**

Design Criteria, Standards and Guidance  
Field Data Collection  
Stormwater Management Master Planning  
Design, Field and Operations Engineering  
Hazard Mitigation  
Zoning Support  
Multi-Objective Planning Support

**5. Operations**

General Maintenance Management  
General Routine Maintenance  
General Remedial Maintenance  
Emergency Response Maintenance  
Infrastructure Management  
Public Assistance

**6. Regulation and Enforcement**

General Code Development & Enforcement  
General Permit Administration  
General Drainage System Inspection  
Flood Insurance Program  
Multi-Objective Floodplain Management  
Erosion Control Program

**7. Capital Improvements**

Major Capital Improvements  
Minor Capital Improvements  
Land, Easement, and Right-of-Way

The various funding methods have distinctive characteristics that separate them legally, technically, and in terms of public perception. Four major categories of municipal revenue generation methods are taxes, user fees, exactions, and assessments.

1. Taxes are intended primarily as revenue generators. These include property tax, income tax, sales tax, etc. They can often be used for whatever purposes the local government deems fit. There are some exceptions to this rule such as special local option sales or earmarked taxes, but usually taxes can be used for the general purposes of local government.
2. User fees (also known as service charges) must be tied to the objectives of a specific program to which they are associated. For example, water and sewer user fees are structured to cover the cost of those programs. User fees can not be used to simply generate revenue that is then used for other purposes. The total revenue generated through user fees must be tied to the cost of providing services and facilities. The amount each rate payer is charged must be related to the impact or “use” of the system (rational nexus).
3. Exactions are related to the extension of an approval or privilege to use. Franchise fees for the privilege of using the right-of-way for cable and phone companies limited to a certain percentage of revenue by Federal or State laws are an exaction. Licenses, tap fees, impact fees, fees in lieu of detention, capital recovery charges of all kinds and the mandatory dedication of infrastructure during development are also exactions.
4. Assessments are geographically or otherwise limited fees levied for improvements or activities of direct and special benefit to those who are being charged. The benefit must be directly tied to a specific and measurable or estimable property improvement. It must also be a special benefit, which is not realized generally in the community or area.



A major source of funding for stormwater management is in the form of a user fee system implemented under the auspices of a stormwater utility. This form of funding has several advantages over other competing forms of finance including its equitability, stability and adequacy. The user fee concept of stormwater funding method is growing quickly. In the early 1970's, there were only one or two true stormwater user fee funded programs in existence. In the early 1990's, there were over 200. By 2000, the number had grown to 400. This number is expected to more than triple in the next decade as the financial impacts of stormwater quality legislation reach many small municipalities.

A stormwater user fee funded program is based on the premise that the urban drainage system is a public system, which is similar to a wastewater or water supply system. When demand is placed on either of these two later systems, the user pays. In the same way, when a forested or grassy area is paved a greater flow of water is placed on the drainage system. This is the demand. The greater the demand (i.e. the more the parcel of land is paved), the greater the user fee. A stormwater user fee funding method differs from the other two water-related user fee funded programs in several key ways. First, there is no method to remove or discontinue services for non-payment. Second, the service is provided to all citizens without choice (though mandatory water and sewer service makes this difference less distinctive). Third, the demand placed on the system by a particular property and the associated services rendered to that property can only be approximated. Despite these drawbacks, the user fee concept for stormwater financing is a viable and growing funding method.

The distinctions of the four revenue categories are very important. One of the critical issues that typically must be resolved, if a user fee of any type is legally challenged, is whether the service charge is clearly related to and incidental to the activities and improvements of the user fee funded stormwater program. The entity must be prepared to prove that it is not merely a means of creating revenue for general governmental purposes (a tax) or a special assessment (which is supposed to reflect a direct and special benefit). Thus, a stormwater user fee must be based on a stormwater program and not simply a perceived financial need or willingness to pay.

A user fee funded stormwater program should be viewed as an umbrella under which individual communities address their own specific needs in a manner consistent with local problems, priorities, and practices. Such a program should be viewed as a means of generating revenue, a program concept, and potentially an organizational entity. It provides a vehicle for:

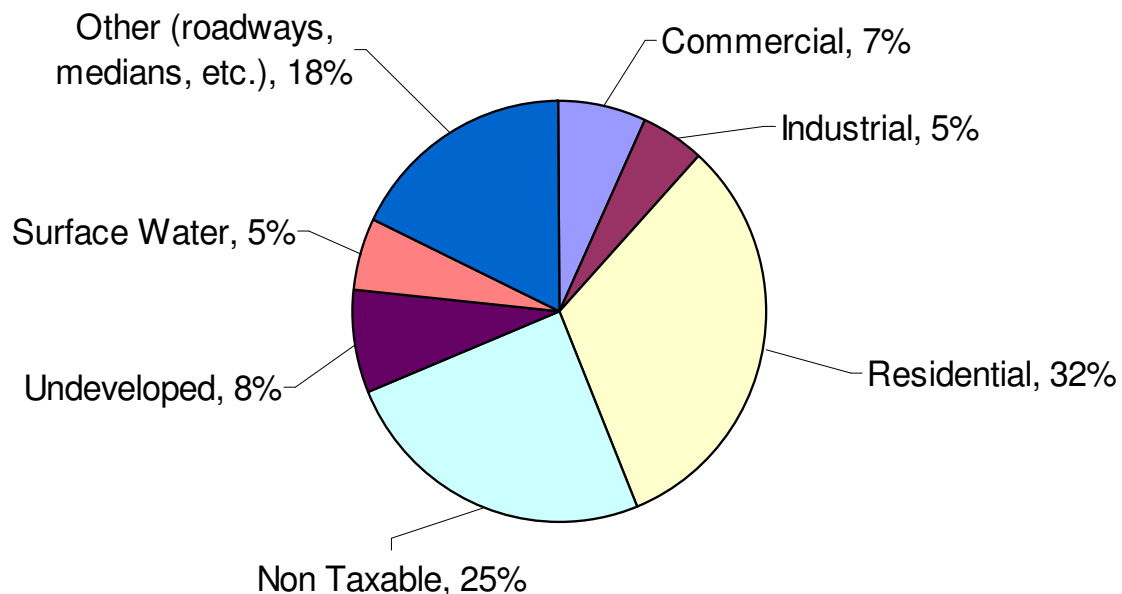
- ◆ Consolidating or coordinating responsibilities that were previously disbursed among several departments and divisions
- ◆ Generating funding that is adequate, stable, equitable, and dedicated solely to the stormwater function
- ◆ Developing programs that are comprehensive, cohesive, and consistent year-to-year

A stormwater user fee funding method is equitable, because the cost is borne by the user on the basis of demand placed on the drainage system. It is stable because it is not totally dependent on the vagaries of the annual budgetary process. It is adequate because typical stormwater program enhancements can be funded with payments that are generally felt to be affordable to customers within the service area.

## Current Program

Manchester has a population of about 110,000 and is the largest city in the State of New Hampshire. In recent years, the City of Manchester has experienced a revitalization of its downtown area which has resulted in significant economic growth. Manchester has a total area of 34.9 square miles (22,336 acres) of which 1.9 square miles (1,216 acres) is water. It serves as an urban core for surrounding communities and is located within commuting distance to the Boston metropolitan area. The following pie chart (Figure 1) depicts the current land use types (by area according to Assessor GIS land use codes) within the City. There are over 35,000 land parcels within the City's database, of which approximately 22,000 parcels are identified as single-family residential. The "Non Taxable" category presented in the following figure is made up of both tax exempt developed properties (i.e. churches, City owned property, and schools) and vacant land.

**Figure 1 – Manchester Land Use Types**



Approximately two-thirds of the City has a combined sanitary and storm sewer system. Major investments are being made throughout the City to separate areas of combined sewer to effectively abate combined sewer overflow (CSO) events. The City is currently completing a \$57 million Phase I CSO abatement program on the City's West Side. The City is also now preparing for a \$150 million Phase II CSO abatement program for the City's East Side.

Current broad estimates for stormwater program spending are presented in Table 2 below:

<b>Table 2 - 2007 Estimated Stormwater Budget</b>	
Staffing	\$503,600
Maintenance	\$175,000
Equipment	\$86,400
<b>Total</b>	<b>\$765,000</b>

These cost figures do not include the significant CSO expenditure throughout the City. The expenditures listed in Table 2, when compared to other communities around the United States, show an incidental level of stormwater program investment. This is depicted in Figure 2. The values on the chart are expressed in terms of dollars per developed acre per year spent on stormwater and provide a broad level of comparison and bracketing for planning purposes. The CSO expenditure makes direct comparisons difficult.

The City of Manchester's current stormwater program, excluding the CSO work, could be considered incidental and is funded at approximately \$39/developed acre. Many of the program elements considered basic to stormwater management (routine maintenance, remedial maintenance, capital construction, regulation and enforcement, engineering, and water quality compliance) are being done, but at a relatively low level of service with piecemeal program elements that are unable to be fully coordinated due

to budget constraints. Maintenance of the City's stormwater infrastructure system is primarily reactionary with limited planned or routine maintenance programs. The capital construction associated with stormwater best management practices (BMPs) and water quality analysis over the past six years have all been supported by the Supplemental Environmental Projects Program (SEPP) funding. SEPP was a component of the City's Phase I CSO abatement program. This program ended in December 2006.

**Figure 2 – Stormwater Program Costs**

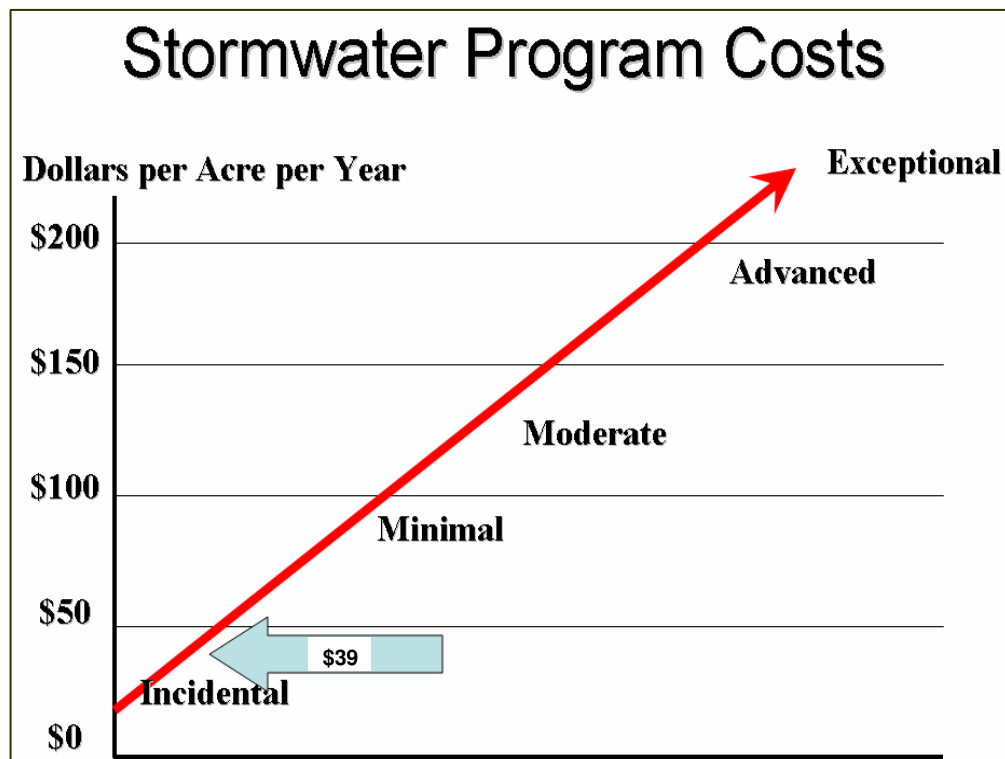


Table 3 identifies the key components of the existing stormwater program and the City departments and/or divisions that are primarily and secondarily involved with each.

**Table 3 – Manchester’s Current Stormwater Program Functions**

Stormwater Program Function	Highway Division		Environmental Protection Division		Health Department	Outside Consulting Services
	Engineering & Technical Support	Street Operations	Administration	Environmental Monitoring		
Administration			●	●		
Engineering & Planning	●					●
Water Quality Management				●		
Regulations & Enforcement				●	●	
Operation & Maintenance		●		●		
Capital Improvement	●	●	●			
Public Education & Outreach			●	●		
Information Systems	●					●



Primary Involvement



Secondary Involvement

The annual cost to bring the stormwater program to a moderate level has been estimated at approximately \$2.6 million based on \$135/developed acre. This is not the target number but is simply a bracketing level to give some idea of Manchester’s stance compared to national norms. It also reflects the potential level of investment needed to round out the stormwater program, thus transforming it into a more comprehensive and robust program.

In terms of an ability to generate revenue, a stormwater user fee can typically generate a range of \$25-\$40 per developed acre, per year, for each dollar of fee per month collected. In simple terms, a one-dollar per month charge to residential properties and a proportionately greater fee for non-residential users (the more you pave the more you pay) will generate this range. The average monthly fee nationwide is about \$4.00 per household per month and ranges as high as \$20.00 per month per household. City representatives that attended the Stormwater Feasibility Study workshop felt that local

citizens could be willing to pay between \$4.00 - \$5.00 per household per month, if a strong and compelling case were made for creation of an enhanced, user fee funded stormwater program.

Based on a rough estimate of one dollar per household per month (with multiples of that for other non-residential properties), a stormwater user fee in Manchester could generate approximately \$700,000 annually. At \$4.00 per equivalent residential unit, roughly \$2.8 million annually could be generated by a stormwater user fee. It should be noted that a user fee is not the only way to generate funds for the stormwater program and should be part of a blended set of methods matched to the stormwater program. Other funding sources can include but are not limited to available grants and loans, application and inspection fees and special assessments (where appropriate).

## Compelling Case

What local government “sells” is a service and it is a service that local citizens feel they need. In every community, there may be compelling reasons to improve stormwater programs. However, improving stormwater programs costs more money than was previously spent by local government. Thus, there must be compelling reasons to improve stormwater programs that convince stakeholders and citizens to spend more on the program.

In discussion with Manchester staff and other community leaders, a series of key problems, needs, and issues emerged that are either facing the City today or will face it in the near future. The following important points were revealed in the compelling case discussion.

First, the workshop attendees recognized flooding concerns as the most eminent stormwater related problem facing the City. In the past two years, three 100-year storm events have occurred in Manchester. These storms have resulted in hazardous conditions and significant damage to both public and private property. It was noted that there are known flooding and stormwater infrastructure problems in each of the City’s twelve (12) wards.



**April 2007 Street Flooding**

The City of Manchester owns, operates, and maintains over 170 miles of stormwater piping, over 16,000 catch basin, miles of earthen drainage swales, and hundreds of drainage outfalls. This represents a stormwater infrastructure investment of over \$135



million. To properly maintain this large, aging, and somewhat neglected infrastructure investment, a multi-million dollar annual budget would be required. However, these financial needs surpass the City's ability to adequately support the existing stormwater system infrastructure through traditional funding methods. This situation is common throughout the country as the demands of a community's aging infrastructure far outweigh the community's financial resources. The development of a stormwater user fee funding structure, capable of adequately supporting a capital improvements/maintenance budget while preventing an excessive financial burden on community members, is an equitable and ever popular approach for addressing stormwater infrastructure needs.

Second, City representatives identified taking a proactive approach towards planning, constructing, operating, and maintaining stormwater infrastructure as being extremely import to the City of Manchester. There are many known components of the stormwater system that are inadequate due to size, age, condition, and/or general configuration.

Third, the City representatives realized that lost recreation opportunities associated with the impaired water quality of water resources within the City limits (including ponds, brooks, and rivers) was of significant concern and warranted action to address contributing stormwater related problems. In addition, to recognizing lost recreation opportunities such as swimming, fishing and boating, the importance of having a clean environment was also recognized.

Finally, the importance and major impact of stormwater related regulatory mandates were also recognized and discussed during the feasibility workshop. The City of Manchester is identified as a municipal separate storm sewer system (MS4) community under the National Pollutant Discharge Elimination System (NPDES) Phase II program and, therefore, has been required to obtain NPDES permit coverage and develop and implement a Stormwater Management Program (SWMP) designed to reduce the

discharge of stormwater pollutants. Under Federal guidelines, the City's SWMP is required to focus on the six minimum control measures listed below:

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement / Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management in New Development and Redevelopment
6. Pollution Prevention / Good Housekeeping for Municipal Operations

The NPDES Phase II stormwater regulations are unfunded Federal mandates which place a significant burden on the City's resources. The consequential impacts of stormwater runoff have become better understood in recent years by the scientific and environmental community. Of local importance, various reports and studies, such as the Phase I Merrimack River Watershed Assessment Study completed by the U.S. Army Corp of Engineers in 2006, have identified stormwater runoff as a major long term threat to the water quality of the Merrimack River. As the impacts of unmanaged stormwater runoff become better understood, it is likely that the regulatory community will react and that unfunded State and Federal mandates relating to stormwater management will continue to become an increasing responsibility in future years.

Each of these problems is in part due to an underlying paradigm for stormwater management that does not recognize that there is a civic responsibility for a public stormwater infrastructure that is very similar to water and sewer systems. The typical developed parcel of land in the City is served by three water-related systems that include drinking, sewer, and storm. The first two are managed as focused enterprise funds wherein the system is planned, constructed, depreciated, and maintained on behalf of the public in a professional business manner. Stormwater is not treated in a similar manner but is often disjointed, haphazard, and unfocused. For many local governments, stormwater is "other duties as assigned" for departments (highways,

water & sewer, planning, engineering, etc.) whose primary focus is something else. As such, the result is a somewhat neglected infrastructure in need of maintenance, recapitalization, and planning in new areas. This is a characteristic of the incidental rating.

Contrasted with other municipal systems (water supply, sanitary sewage treatment, roads, solid waste) that are highly visible and/or provide a service that is used regularly by citizens, stormwater systems are largely invisible and forgotten to the general public due to the historic infrequent nature of flooding. The installed capacity of the stormwater systems is mostly provisional. When it rains hard, proper function of stormwater systems is essential to community health and the safety of people and property. When it rains gently, a concentrated pollution flows into public waters contributing to deterioration of the vital community resources such as wetlands and surface waters that have been identified as being very important to the citizens of Manchester.

Unfortunately, proper function of stormwater systems is evidenced by the lack of something (flooding, pollution, traffic disruptions, etc.) rather than the presence of a commodity such as water or electricity. Thus, it is the visibility of problems, not of service, that often drives stormwater programs. This is the case in the City of Manchester where less visible problems are growing in number and severity.

The compelling case discussion highlighted the need for the City to develop and implement an enhanced stormwater program. The City's stormwater program needs are real and were readily identified by workshop attendees. The establishment of a stormwater user fee would allow for the City to implement an enhanced stormwater program by providing a reliable funding source of which the burden would be fairly shared by stormwater system users.

# Program Priorities

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Following the compelling case discussion, input from workshop attendees was solicited regarding stormwater program priorities. The development of program priorities typically involves the synthesis of the compelling case issues into a core plan that guides the development of an enhanced stormwater program. The following is a brief description of the top three identified program priorities presented in the order of importance as determined by workshop attendees.

## **1. Flooding**

Flooding was identified as the top priority for an enhanced stormwater management program. It is generally thought that existing stormwater system infrastructure deficiencies (pipe size, slope, etc.) have contributed to the damaging flood events which the City has experienced in recent years. Flood prone areas were identified throughout the City and include but are not limited to the following locations: Lewis Street, Cypress Street, Ruth Avenue and Porter Street.

## **2. Stewardship of Infrastructure**

Manchester possesses an aging pipe system: older corrugated metal storm drains in parts of the City, deteriorating catch basins, eroding ditches in outlying areas, and undersized street crossings. Workshop attendees identified the need to take a proactive approach, rather than the current reactive approach, towards planning, constructing, operating, and maintaining stormwater infrastructure as being extremely important to the City of Manchester.

## **3. Water Quality Issues**

It is apparent that the quality of the surface water resources within the City of Manchester is of paramount importance to the citizens. The desire to improve local surface water quality in an effort to restore lost recreational opportunities, such as swimming, fishing and boating and the longing to maintain a clean environment, were identified as significant priorities for the stormwater program.

Although various improvements were made to City water resources as part of the Supplemental Environmental Projects Program (SEPP) such as streambank stabilization and erosion control efforts and urban pond restoration activities, additional and ongoing efforts will need to be made to improve the water quality and ecological integrity of the City's water bodies.

The City of Manchester is not alone in the problems identified with its existing stormwater program. Many U.S. cities have dealt with or are currently dealing with similar program priorities through the development of an enhanced stormwater management program and associated user fee funding approach. The identified program priorities of flooding, infrastructure stewardship, and water quality issues are considerable and should be addressed through a consistent and predictable management approach.

# Implementation Needs

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The workshop attendees and consultant team investigated key implementation needs and issues that could impact the ability to move forward with a stormwater program and funding structure enhancements. Some of the identified issues work to support the advancement of stormwater program and funding structure enhancements while others could be viewed as obstacles to moving forward.

## **1. Recent Tax Reduction**

Property taxes were recently reduced for many property owners throughout the City. It was generally agreed that the introduction of a new stormwater user fee would be more palatable for citizens following the recent tax reduction.

## **2. Post Elections**

It was generally agreed among workshop attendees that support for the stormwater program and funding structure enhancements would not likely become a politically divisive issue following the November 6, 2007 city-wide elections.

## **3. Recent Wastewater Rate Adjustment**

Although the wastewater rate was recently increased, common opinion was that this increase would not be a significant hurdle for the potential establishment of a new stormwater user fee.

## **4. Enabling Legislation**

The existing State legislation authorizes only the City of Manchester to establish a stormwater user fee. New legislation was introduced which would allow for the establishment of stormwater user fees in other municipalities within the State of New Hampshire and would provide further clarification regarding the establishment and operation of user fee funded stormwater programs. Under the current enabling legislation, the votes of two-thirds of the City's Aldermen would be needed in order for a stormwater user fee to be established.

## 5. Establishment of New User Fee

Workshop attendees provided cautionary warnings regarding the City's attempt to create a user fee for the collection and disposal of solid waste ("Bag and Tag") in 2002. The proposed "pay to throw" program was never adopted by City officials and was generally viewed negatively by the public. It was expressed that the proposed "Bag and Tag" program was received as being too aggressive. This experience offers valuable insight for consideration in regards to moving forward with enhancements to the City's stormwater program and possible establishment of a stormwater user fee structure.

## 6. Compelling Case

For the reasons identified within a previous section of this report, the case in support of enhancing the City's stormwater program from its current incidental status, to an adequately funded moderate program, appeared sufficient to City representatives that

attended the workshop. These reasons can most succinctly be identified as concerns regarding: flooding, water quality, capital improvements, and regulatory mandates.



**Residential Property Damage from Stormwater Surcharging**

## 7. Education

The need to educate City officials and business leaders on the compelling reasons driving the consideration for stormwater program improvements and a

dedicated user fee funding source was identified by workshop attendees. It was generally thought that community leaders, once educated on the stormwater related issues impacting the City of Manchester, would likely support an enhanced program and equitable user fee funding.

As part of this preliminary stormwater feasibility study, the City's existing GIS and billing databases were investigated in order to determine the compatibility and potential hurdles associated with utilizing these existing resources to support a stormwater user fee funding method. Below is brief overview of the status and applicability of these two databases.

### ***GIS Database***

The City of Manchester maintains a geographic polygonal parcel database. There are approximately 35,000 land parcels in this database, with unique parcel maps and lot numbers. Relational tables maintain detailed land use, land and improvement value, ownership, and other types of data, and are linkable or embeddable in the parcel polygons via GIS or geodatabase functionality. The detailed information on land use, occupancy, and improvements supports a wide range of filtering and identification efforts which could be used to categorize land parcels for developing stormwater user fee billing data.

Sufficiently detailed and current imagery, coupled with the parcel information the City maintains, would support the development of a parcel-by-parcel table of fees required for a stormwater user fee master account file.

### ***Billing Database***

The City uses the HTE system for billing sanitary sewer service as well as potable water. The modules for these two services are separated and the bills are conveyed separately. A great amount of custom application programming was invested into the system as deployed. Importantly, sewer service physical locations are linked to land parcels in this system and are generally reliable as a means to locate a sewer service



on a specific land parcel, which is key to creating the master account file if a stormwater service charge is implemented. A major project is underway within the Environmental Protection Division (EPD) to further “clean up” and verify this linkage using a relationship to the HTE land parcel management module that the City uses. Resulting improvements to the database will likely assist in the potential implementation of a stormwater user fee billing structure.

The HTE platform would support (with programming) the addition of a stormwater user fee, and the bills can be formatted to accept this change. Additional programming may be needed to support separate revenue recognition and cash receipts functionality as well as customer service tools. A stormwater-specific data maintenance process (ideally linked to land development processes) would also be required before the changes could be deployed.

## Next Steps

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The development of an adequate stormwater program and dedicated user fee funding source typically starts with a preliminary feasibility study and associated workshops. Based on the outcome of this initial exploration, community officials may choose to move directly into the establishment and implementation of an enhanced user fee funded stormwater program. This approach is suitable when it is felt that there is generally a strong compelling case and when no significant hurdles are identified that would likely prevent the successful establishment and implementation of an enhanced stormwater program and user fee funding structure.

At the conclusion of the stormwater feasibility workshop that took place on October 30, 2007, attendees agreed that the stormwater program and funding development approach described above was appropriate for the City of Manchester to follow. This report represents the findings and outcomes of the preliminary stormwater feasibility study that was conducted for the City. With input from City staff, elected officials, and other community stakeholders, it was agreed that this initiative should proceed in the following manner:

1. Completion of preliminary Stormwater Feasibility Study Report – Spring 2008
2. Presentation to the City Board of Mayor and Aldermen – Spring 2008
3. Based on the approval of the Board of Mayor and Alderman, proceed with stormwater program implementation phase tasks – Summer 2008 to Spring 2009
4. Final presentation to the City Board of Mayor and Alderman – Spring 2009
5. Implementation of stormwater section – July 2009

### ***User Fee Policy Decisions and Establishment Approach***

If the City of Manchester decides to proceed with stormwater program enhancements and user fee funding implementation efforts, a careful process will be developed and executed. A series of policy issues will be identified, addressed, and carefully documented. Example of policy issues that would need to be addressed include:

- Should vacant or undeveloped properties be charged under the user fee schedule or only those that have been developed?
- Should a single-family residential tiered rate structure be established?
- Who is responsible for payment of user fees (landlord or tenant)?
- On what basis is payment of stormwater user fees enforced?
- Will stormwater user fees be included on an existing utility bill or billed separately?
- Should credits be offered? If “yes”, on what basis?

If the City of Manchester decides to move forward with the stormwater program, a formal process of establishing an enhanced stormwater program and user fee funding methodology would be required. Tasks would include, but not be limited to, the development of; various program policies, a five year program strategy, an organization and staffing approach, a formalized crediting mechanism, and a cost of service analysis and rate determination. This work would conclude with the adoption of a rate ordinance.

The tasks that would implement the stormwater program enhancements and user fee funding structure would include, but not be limited to; data analysis, impervious feature coverage, master account file (MAF) and billing system development and error elimination necessary for the preparation of accurate user fee bills. Also included in this phase would be the development and support of a public outreach plan, customer service training, development of complaint response measures and other program implementation assistance services.

## **Appendix A**

### **New Hampshire House Bill 664-FN Enabling Stormwater Legislation for the City of Manchester**

CHAPTER 329

HB 664-FN – FINAL VERSION

07Mar2007... 0185h

05/17/07 1545s

06/07/07 2078s

27Jun2007... 2370eba

2007 SESSION

07-0535

06/01

HOUSE BILL **664-FN**

AN ACT relative to annual dam registration and permit application fees and authorizing the city of Manchester to establish a stormwater utility.

SPONSORS: Rep. Brueggemann, Merr 12; Rep. Davis, Merr 7; Rep. Hamm, Merr 4; Rep. Parkhurst, Ches 4; Sen. Burling, Dist 5

COMMITTEE: Resources, Recreation and Development

AMENDED ANALYSIS

This bill:

I. Increases annual dam registration and filing fees to cover the cost of inspecting existing dams and permitting the construction or reconstruction of dams.

II. Authorizes the city of Manchester to establish a stormwater utility.

.....  
Explanation: Matter added to current law appears in ***bold italics***.

Matter removed from current law appears [~~in brackets and struckthrough.~~]

Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

07Mar2007... 0185h

05/17/07 1545s

06/07/07 2078s

27Jun2007... 2370eba

07-0535

06/01

STATE OF NEW HAMPSHIRE

*In the Year of Our Lord Two Thousand Seven*

AN ACT relative to annual dam registration and permit application fees and authorizing the city of Manchester to establish a stormwater utility.

*Be it Enacted by the Senate and House of Representatives in General Court convened:*

329:1 Dam Registration Fees Increased. Amend RSA 482:8-a to read as follows:

482:8-a Annual Registration Fee. Annual registration fees for dams shall be payable to the department on January 1 of each calendar year. Failure to pay the registration fee shall be considered a violation of RSA 482:15. Yearly dam registration fees ***shall be*** based on ~~[the following dam]~~ classification ~~[shall be]~~ as follows: Low hazard potential = ~~[\$100]~~ ***\$400***; Significant hazard potential = ~~[\$300]~~ ***\$750***; High hazard potential = ~~[\$600]~~ ***\$1,500***. ***If the hazard classification designated by the Federal Energy Regulatory Commission for a dam differs from the classification designated by the department, the annual dam registration fees shall be based on the classification designated by the Federal Energy Regulatory Commission.*** Revenues from this annual registration are to be collected by the department and deposited in the dam maintenance fund established in RSA 482:55 to be used for the inspection of dams.

329:2 Permit Fees for Non-Permitted Existing Dams Consolidated with Permit Fees for Construction and Reconstruction of a Dam. Amend RSA 482:5 to read as follows:

482:5 Non-permitted Existing Dams. ~~[I.]~~ Upon written notice from the department, the owner of a non-permitted existing dam shall submit an application for a permit for said dam to the department ***along with a fee based on the classification of the dam under RSA 482:9.*** The application shall provide such information as the department may require to determine whether or not the dam is a menace to the public safety. Following a review of the permit application, the department may issue a permit to the owner with necessary conditions for the repair or reconstruction of the dam which the department deems necessary for the public safety. Such repair work shall be undertaken within a time period fixed by the department.

~~[H. In addition to the information required in paragraph I, the applicant, upon notice from the department, shall submit to the department an additional classification fee based on the classification of a dam as follows:~~

~~(a) Low hazard potential dam--\$100~~

~~(b) Significant hazard potential dam--\$250~~

~~(c) High hazard potential dam--\$500.~~

~~[H. All funds collected under the provisions of this section shall be deposited into the general fund as unrestricted revenue.]~~

329:3 Dam Filing Fee Increased. Amend RSA 482:9, II to read as follows:

II. The filing of the statement required by paragraph I ***or an application required by RSA 482:5*** shall be accompanied by a ~~[filing]~~ fee ~~[of \$250]~~ for each statement ***or application*** filed. The fee shall be deposited in

the dam maintenance fund established in RSA 482:55 to be used for the ~~[inspection]~~ **permitting** of dams.  
***The fee shall be as follows:***

***(a) Non-hazard potential dam \$2,000***

***(b) Low hazard potential dam \$3,000***

***(c) Significant hazard potential dam \$4,000***

***(d) High hazard potential dam \$4,000***

329:4 Stormwater Utility Authorized for City of Manchester.

I. In this section:

(a) “Stormwater” means stormwater runoff from precipitation, snow melt runoff, street wash waters related to street cleaning or maintenance, infiltration, and drainage.

(b) “Stormwater utility” means a special assessment district established to generate funding specifically for stormwater management.

II. The formation of a stormwater utility in the city of Manchester is hereby authorized upon approval by a 2/3 vote of the Manchester board of mayor and aldermen. The board of mayor and aldermen may adopt bylaws and ordinances under RSA 38:26 to regulate the rate structure of fees and to promote the objectives of the utility.

III. The stormwater utility shall address flood and erosion control, water quality management, ecological preservation, annual pollutant load contained in stormwater discharge, rate structures for fees, and other issues related to stormwater.

329:5 Repeal. RSA 482:9, IV, relative to dam filing fees, is repealed.

329:6 Effective Date. This act shall take effect July 1, 2007.

Approved: July 16, 2007

Effective: July 1, 2007

## **Appendix B**

### **New Hampshire House Bill 1581-FN Statewide Stormwater Legislation**



**HB 1581-FN-LOCAL – VERSION ADOPTED BY BOTH BODIES**

18Mar2008... 0704h

2008 SESSION

08-2224

06/09

**HOUSE BILL *1581-FN-LOCAL***

AN ACT relative to the formation of stormwater utility districts.

SPONSORS: Rep. Fargo, Straf 4

COMMITTEE: Municipal and County Government

**ANALYSIS**

This bill permits the governing body of municipalities to construct and maintain stormwater systems.

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Explanation: Matter added to current law appears in ***bold italics***.

Matter removed from current law appears [~~in brackets and struckthrough~~]

Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

18Mar2008... 0704h

08-2224

06/09

**STATE OF NEW HAMPSHIRE**

*In the Year of Our Lord Two Thousand Eight*

AN ACT relative to the formation of stormwater utility districts.

*Be it Enacted by the Senate and House of Representatives in General Court convened:*

1 Construction. Amend RSA 149-I:1 to read as follows:

149-I:1 Construction. The mayor and aldermen of any city may construct and maintain all main drains or common sewers, ***stormwater treatment, conveyance, and discharge systems***, sewage and/or waste treatment, works which they adjudge necessary for the public convenience, health or welfare. Such drains [~~and~~], sewers, ***and systems*** shall be substantially constructed of brick, stone, cement, or other material adapted to the purpose, and shall be the property of the city.

2 Taking Land. Amend RSA 149-I:2 to read as follows:

149-I:2 Taking Land. Whenever it is necessary to construct such main drains or common sewers, ***stormwater treatment, conveyance, and discharge systems***, sewage and/or waste treatment facilities across or on the land of any person and the city cannot obtain for a reasonable price any land or easement in land required by it, the mayor and aldermen may lay out a sufficient quantity of such land for the purpose and assess the owner's damages in the same manner as in the case of taking land for highways pursuant to RSA 230 and the owner shall have the same right of appeal, with the same procedure.

3 Contracts; Treatment Facilities. Amend RSA 149-I:4 to read as follows:

149-I:4 Contracts; Sewage or Waste Treatment Facilities. The mayor and aldermen of any city may lease, enter into contracts to provide, sell, or purchase ***stormwater treatment, conveyance, and discharge systems, and*** sewage or waste treatment facilities to or from any other city, town, village district or person whenever they judge the same necessary for the public convenience, health and welfare.

4 Bylaws and Ordinances. Amend RSA 149-I:6, I to read as follows:

I. In municipalities where the sewage ***or stormwater*** is pumped or treated, the mayor and aldermen may adopt such ordinances and bylaws relating to the system, pumping station, treatment plant or other appurtenant structure as are required for proper maintenance and operation ***and to promote the objectives of the sewage system or stormwater utility***.

5 New Subdivision; Stormwater Utilities. Amend RSA 149-I by inserting after section 6 the following new subdivision:

#### Stormwater Utilities

149-I:6-a Definitions. In this chapter:

I. "Equivalent residential unit" or "ERU" means the fee unit basis for all fees assessed by a stormwater utility.

II. "Stormwater" means stormwater runoff from precipitation, snow melt runoff, and street wash waters related to street cleaning or maintenance, infiltration, and drainage.

III. "Stormwater utility" means a special assessment district established to generate

funding specifically for stormwater management.

IV. “Stormwater utility commission” means the governing body managing the activities of the stormwater utility. When the utility encompasses more than one municipality, representation on the commission shall be proportional to the number of fee units within each jurisdiction.

149-I:6-b Stormwater Utility Authorized. The formation of a stormwater utility is hereby authorized upon approval by a majority vote of the legislative body of a municipality. In the case where a stormwater utility encompasses land within more than one municipality, the utility may be authorized by majority vote of the legislative bodies within each affected jurisdiction. Inter-municipal stormwater utilities shall be governed by a stormwater utility commission.

149-I:6-c Criteria for Stormwater Utilities. The stormwater utility shall address flood and erosion control, water quality management, ecological preservation, and annual pollutant load contained in stormwater discharge.

I. Utilities may collect reasonable fees that are directly related to the cost of providing services.

II. Properties charged assessments shall have equal opportunity to receive proportional benefit from the utility.

III. The utility shall offer credits or fee abatements based on on-site management of water quality impairment or peak runoff storage, or both. The utility shall adopt design standards to determine the amount of abatement.

IV. In assessing fees, the stormwater utility district shall forecast the annual cost of each component in the district’s stormwater management program. This forecast shall be the basis for annual assessments distributed equally among the number of fee units within the district.

V. A minimum assessment may be established for fee units based on single family residences. This equivalent residential unit (ERU) can serve as the fee unit basis for all fees. Government property and non-profit organizations shall be subject to the fee structure.

VI. Boundaries of the district are not required to coincide with municipal boundaries.

149-I-6-d System for Fee Units. Each stormwater utility commission shall establish a system for fee units based on at least one of the following property-specific attributes:

I. Total impervious area.

II. Calculated lot runoff.

III. Total lot area.

IV. Land use classification developed for assessment of fees.

6 Levying. Amend RSA 149-I:7 to read as follows:

149-I:7 Levying. The mayor and aldermen may assess upon the persons whose drains enter such main drains, common sewers, ***stormwater treatment, conveyance, and discharge systems***, or treatment facilities, or whose lands receive special benefit therefrom in any way, their just share of the expense of constructing and maintaining the same or paying off any capital debt or interest incurred in constructing and/or maintaining the same.

7 Combined Billing Permitted. Amend RSA 149-I:9 to read as follows:

149-I:9 Combined Billing Permitted. In ~~[cities]~~ ***municipalities*** which assess sewer rents, ***or have established fees for a stormwater utility***, such assessments may be combined in a bill with assessments for other municipal services.

8 New Section; Stormwater Utility Funds. Amend RSA 149-I by inserting after section 10 the following new section:

149-I:10-a Stormwater Utility Funds.

I. The funds received from stormwater utility fees shall be kept as a separate and distinct fund to be known as the stormwater utility fund. Such fund shall be allowed to accumulate from year to year, shall not be commingled with town or city tax revenues, and shall not be deemed part of the municipality's general fund accumulated surplus. Such fund may be expended only for stormwater treatment, conveyance, and discharge systems.

II. Except when a capital reserve fund is established pursuant to paragraph III, all stormwater utility funds shall be held in the custody of the municipal treasurer. Estimates of anticipated revenues and anticipated expenditures from the stormwater utility fund shall be submitted to the governing body as set forth in RSA 32:6 if applicable, and shall be included as part of the municipal budget submitted to the local legislative body for approval. If the municipality has a properly-established stormwater utility commission, then notwithstanding RSA 41:29 or RSA 48:16, the treasurer shall pay out amounts from the stormwater utility fund only upon order of the stormwater utility commission. Expenditures shall be within amounts appropriated by the local legislative body.

III. At the option of the local governing body, or of the stormwater utility commission if any, all or part of any surplus in the stormwater utility fund may be placed in one or more capital reserve funds and placed in the custody of the trustees of trust funds pursuant to RSA 35:7. If such a reserve fund is created, then the governing body, or stormwater utility commission if any, may expend such funds pursuant to RSA 35:15 without prior approval or appropriation by the local legislative body, but all such expenditures shall be reported to the municipality pursuant to RSA 149-I:25. This section shall not be construed to

prohibit the establishment of other capital reserve funds for any lawful purpose relating to municipal water systems.

9 Liens and Collection of Sewer Charges. Amend RSA 149-I:11 to read as follows:

149-I:11 Liens and Collection of Sewer Charges. In the collection of sewer charges **or *underwater utility fees*** under RSA 149-I:7 and 149-I:8, municipalities shall have the same liens and use the same collection procedures as authorized by RSA 38:22. Interest on overdue charges shall be assessed in accordance with RSA 76:13.

10 Correction of Assessments. Amend RSA 149-I:14 to read as follows:

149-I:14 Correction of Assessments.

*I. If any error is made in any assessment under RSA 149-I:7 or RSA 149-I:8, it may be corrected by the mayor and aldermen by making an abatement and a new assessment, or either, as the case may require. The same lien, rights, liabilities and remedies shall attach to the new assessment as to the original.*

*II. If any error is made in any assessment under RSA 149-I:6-c or RSA 149-I:7, it may be corrected by the governing body by making an abatement or a new assessment, or both. The same lien, rights, liabilities, and remedies shall attach to the new assessment as to the original.*

11 Assessments Not Required. Amend RSA 149-I:17 to read as follows:

149-I:17 Assessment Not Required. Nothing herein contained shall be construed to prevent any city from providing, by ordinance or otherwise, that the whole or a part of the expense of constructing, maintaining and repairing main drains, common sewers, ***stormwater treatment, conveyance, and discharge system***, or sewage and waste treatment facilities shall be paid by such city.

12 Application of Chapter. Amend RSA 149-I:24 to read as follows:

149-I:24 Application of Chapter. The provisions of this chapter shall be in force in such town and village districts as may adopt the same ***by vote of the legislative body***; and the ~~[selectmen]~~ ***governing body*** shall perform all the duties and possess all the powers in the town or the district, as the case may be, conferred by this chapter upon the mayor and aldermen, and the rights of all parties interested shall be settled in the same way.

13 Entering Without Permit. Amend RSA 149-I:22 to read as follows:

149-I:22 Entering Without Permit. Any person who digs or breaks up the ground in any street, highway, lane or alley in any city, for the purpose of laying, altering, repairing or entering any main drain, ***stormwater treatment, conveyance, and discharge system***, or common sewer therein, without permission from the mayor and aldermen, shall be guilty of a violation.

14 Malicious Injury; Penalty. Amend RSA 149-I:23 to read as follows:

149-I:23 Malicious Injury; Penalty. Any person who shall wantonly or maliciously injure any part of any sewer system, ***stormwater treatment, conveyance, and discharge system***, or sewage disposal plant shall be liable to pay treble damages to the owner thereof, and shall be guilty of a misdemeanor if a natural person, or guilty of a felony if any other person.

15 Reports. Amend RSA 149-I:25 to read as follows:

149-I:25 Reports. In towns and village districts adopting this chapter, the selectmen or district commissioners, or board of sewer commissioners if any, ***or stormwater utility commission*** shall annually, at the time other town or district officers report, make a report to the municipality of the condition of the plant financially and otherwise, showing the funds of the department, the expenses and income thereof, and all other material facts. This report shall be published in the annual report of the municipality.

16 New Subparagraph; Application of Receipts; Stormwater Utility Fund. Amend RSA 6:12, I(b) by inserting after subparagraph (268) the following new subparagraph:

(269) Moneys deposited in the stormwater utility fund established under RSA 149-I:10-a.

17 Effective Date. This act shall take effect 60 days after its passage.

LBAO

08-2224

12/14/07

## HB 1581-FN-LOCAL - FISCAL NOTE

AN ACT relative to the formation of stormwater utility districts.

### FISCAL IMPACT:

The Judicial Branch, the Department of Justice, the Judicial Council and the New Hampshire Association of Counties state this bill may increase state and county expenditures by an indeterminable amount in FY 2008 and each year thereafter. There will be no fiscal impact on local expenditures or state, county, and local revenue.

### METHODOLOGY:

The Judicial Branch states this bill enables municipalities to construct and maintain stormwater systems and to assess the expense of constructing and maintaining such systems to the persons benefited. The Branch states the bill contains several sections

that could have a fiscal impact on the Branch, including the taking of land provision, the petition to court to correct an assessment provision, the violation provision for entering without a permit and the misdemeanor for a natural person and felony for any other person provision for malicious injury. The Branch states it has no information to estimate how many and what type of charges may arise as a result of this bill. The Branch indicates the trial court processing of cases that may arise from this bill range from \$34.68 in FY 2009 and \$35.75 in FY 2010 and each year thereafter for violations in the District Court to \$491.28 in FY 2009 and \$506.50 in FY 2010 and each year thereafter for complex equity cases in the Superior Court. Due to the myriad of cases that could arise from this bill, the Branch states the potential for a fiscal impact in excess of \$10,000 does exist. Additionally, if a single case were to be appealed to the New Hampshire Supreme Court, the fiscal impact would be in excess of \$10,000.

The Department of Justice states the criminal offense created by the bill is typically prosecuted by the county attorney's office. If an appeal is filed, the Department would have increased expenditures. The Department is unable to estimate how many cases would be appealed to the Supreme Court.

The Judicial Council states there have been no cases paid by the indigent fund for penalties associated with malicious injury to a sewage disposal system or sewage disposal plant and does not anticipate the addition of stormwater systems will add a significant impact to indigent defense expenditures. The Council states it is unable to determine the increase in state expenditures as a result of this bill. The Council states if an individual is found to be indigent, the flat fee of \$275 per misdemeanor is charged by a public defender or contract attorney. If an assigned counsel attorney is used the fee is \$60 per hour with a cap of \$1,400 (effective January 1, 2008). The Council also states additional costs could be incurred if an appeal is filed. The public defender, contract attorney, and assigned counsel rates for Supreme Court appeals will be \$2,000 per case (effective January 1, 2008), with many assigned counsel attorneys seeking permission to exceed the fee cap. However, such motions to exceed the fee cap are seldom granted. Finally, expenditures would increase if services other than counsel are requested and approved by the court during the defense of a case or during an appeal.

The New Hampshire Association of Counties states to the extent any individual is prosecuted, convicted, and sentenced to incarceration, the counties may have increased expenditures. The Association is unable to determine the number of individuals who might be detained or incarcerated as a result of this bill. The average cost to incarcerate an individual in a county facility is \$29,000 a year.

The New Hampshire Municipal Association states it cannot determine the fiscal impact of this bill, however any fiscal impact would be incurred at the discretion of the municipality. The Association does not have information on how many municipalities would choose to construct and maintain stormwater systems.